CIGI

CIGI PAPERS
NO. 8 — OCTOBER 2012

ZERO: THE SURPRISING AND UNAMBIGUOUS POLICY RELEVANCE OF THE CUBAN MISSILE CRISIS

JAMES G. BLIGHT AND JANET M. LANG

ZERO: THE SURPRISING AND UNAMBIGUOUS POLICY RELEVANCE OF THE CUBAN MISSILE CRISIS

James G. Blight and janet M. Lang

Cover and page design by Steve Cross.

Cover art by Chang Dai.

57 Erb Street West
Waterloo, Ontario N2L 6C2
Canada
tel +1 519 885 2444 fax + 1 519 885 5450
www.cigionline.org

TABLE OF CONTENTS

James G. Blight and janet M. Lang (far left), pictured with Kennedy, Khrushchev and Castro in a graphic vignette by Andrew Whyte.

ABOUT THE AUTHORS

James G. Blight is the CIGI chair in foreign policy development and professor at the Balsillie School of International Affairs (BSIA) and the Department of History at the University of Waterloo.

janet M. Lang is research professor at the BSIA and the Department of History at the University of Waterloo.

Blight and Lang are the authors or co-authors of six previous books on the Cuban missile crisis. Their newest book, *The Armageddon Letters: Kennedy/Khrushchev/Castro in the Cuban Missile Crisis*, was published in September 2012 by Rowman & Littlefield.

For information about the project, see:

- armageddonletters.com
- facebook.com/armageddonletters
- twitter.com/armageddontweet

None of the nuclear-weapon states "has an employee, let alone an inter-agency group, tasked full time with figuring out what would be required to verifiably decommission all its nuclear weapons."

— Jessica T. Matthews, Preface to A*bolishing Nuclear Weapons: A Debate*

Where black is the color, where none is the number.

— Bob Dylan, "A Hard Rain's a-Gonna Fall"

NEEDED: ONE SMALL- TO MEDIUM-SIZED NUCLEAR WAR (OR AN EQUIVALENT)

Herman Kahn was one of the most eminent nuclear strategists of the early Cold War period. He advised Presidents Eisenhower and Kennedy while working at the RAND Corporation, and also wrote one of the most controversial bestsellers of the era, *Thinking about the Unthinkable* (1962). Reading it is shocking, even today, as one encounters concepts Kahn made famous, like *megadeath* (a nuclear war killing tens or hundreds of millions of people); *escalation dominance* (ultimately threatening to blow up the world if an adversary does not relent); the *doomsday machine* (US-Soviet nuclear arsenals that, if used in a war, would blow up the world, no matter what leaders might desire); and *use 'em or lose 'em* (striking first in a nuclear war might be advantageous, if the enemy's forces are totally destroyed before he can launch his weapons). No wonder the title role in Stanley Kubrick's black satiric film about the end of the world, *Dr. Strangelove* (1964), is reportedly based on the real Herman Kahn. But Kahn himself always said he was merely being realistic, facing directly the terrifying new reality created by the existence of the ultimate weapon.

Kahn also described the only way, as he saw it, that nuclear weapons might be abolished. If a small- to medium-sized nuclear war were to occur — killing perhaps tens of millions, but not hundreds of millions of people — it would be a war of mass destruction, no doubt, but one from which it might conceivably be possible, over time, to rebuild and recover much of what was destroyed. According to Kahn, the resulting collective horror and grief might provide the psychological engine needed to push leaders and institutions to move safely and swiftly to embrace the goal of zero nuclear weapons. But he had a caveat: it would be necessary to declare the intention to

abolish all nukes *before the dead are buried*.[1] Waiting longer than that, he said, would result in recriminations, pressure on leaders to avenge constituents killed in the holocaust and a quick return to the zero-sum thinking that had led to Armageddon in the first place. A possible outcome of this process, Kahn suggested, might well be a final nuclear spasm that finishes off the human race once and for all. Kahn is said to have especially enjoyed one of his nicknames, "Dr. Feel-bad." Whether he enjoyed it or not, he certainly earned it.

Alas, the evolution of the nuclear threat since the end of the Cold War does little to discredit Kahn's hypothesis. While some gains have been made by the United States and Russia, global governance mechanisms remain catatonically paralyzed because, as Kahn implied, the radical objective of zero nuclear weapons is unachievable without a powerful psychological engine. What is needed — but remains absent — is an optimal quotient of fear and loathing that motivates people, their leaders and the mechanisms of global governance to move decisively and rapidly to zero nuclear weapons.

Psychologically, a close approximation to Kahn's prerequisite for starting the engine of zero nuclear weapons has existed since October 1962. Our claim is that there is now an alternative to the small- to medium-sized nuclear war Kahn deemed necessary to motivate the human race to achieve zero nuclear weapons. We need to climb aboard what we call the "Armageddon time machine" provided by recent research on the Cuban missile crisis. The information that permits us to reconstruct the Armageddon mindset in Cuba on the last weekend of October 1962, has recently become available, allowing us to vicariously put ourselves in the shoes of those on the island during the crisis. We now know, based on this research, that Cubans and Russians on the island of Cuba believed that nuclear war with the Americans was inevitable. When the attack (which would destroy them) came, they wanted Moscow to destroy the United States, martyring those in Cuba for the cause of global socialism.

1 See Richard D. Lamm, "Against Our Will Comes Wisdom." *Christian Science Monitor*, April 23, 1985. Available at: www.csmonitor.com/1985/0423/zlamm1-f.html. Lamm's essay describes a 20-detonation nuclear exchange between India and Pakistan, initiated for reasons that are never made clear. Much of the carnage is seen by people around the world almost in real time, via CNN (which, in 1985, was something of a revolutionary network, becoming famous for getting to hot spots quicker than anyone imagined possible and telecasting from such places). Lamm, who was at the time he submitted the essay the sitting governor of Colorado, was one of the winners in a contest mounted by the *Christian Science Monitor* in September 1984. The theme of the contest was "How Peace Came to the World," with each essay directed at the year 2010. Lamm's scenario seems to be more or less what Herman Kahn had in mind as the lone possibility for moving to zero nuclear weapons.

THE ARGUMENT: ZERO IS NECESSARY; ZERO IS NOT POSSIBLE *SINCE* ...; BUT ZERO WOULD BE POSSIBLE *IF* ...

THE CLEAR AND PRESENT DANGER: ARMAGEDDON

The threat of nuclear war, not excluding a war that would destroy human civilization, is more multi-dimensional than ever, requiring sustained attention by the world's leaders and citizens. The use of a tiny fraction of the current nuclear arsenals could result in — to use Jonathan Schell's memorable phrase — "a republic of insects and grass" (1982). Nuclear weapons must be abolished. *Zero is the right number of nuclear weapons in the world.* When Schell published *The Fate of the Earth* (1982), much of the developed world was gripped by nuclear fear, as the United States and the Soviet Union seemed to be heading toward the nuclear brink. In the wake of the Cold War, the vast majority of people in the developed world are oblivious to the continuing nuclear threat; most give the matter little or no thought at all.

THE US-RUSSIAN PROBLEM: RESIDUAL MISTRUST, INERTIA AND WARINESS

The East-West Cold War has been over for more than 20 years, yet approximately 95 percent of the world's roughly 19,000 nuclear weapons remain in US and Russian arsenals. Progress has been made, but even with significantly smaller arsenals than exist at present, virtually any nuclear event involving either country may spiral quickly into a nuclear catastrophe that would put human civilization at risk. With Russian President Vladimir Putin's recent return to power, the level of mutual trust necessary to diminish the nuclear arsenals of both superpowers has yet to be established.

THE NEW NUCLEAR NATION PROBLEM: ENMITY, BLACKMAIL AND SURVIVAL

Three nations have gone nuclear since the end of the Cold War: India, Pakistan and North Korea. India and Pakistan never signed the Nuclear Non-Proliferation Treaty (NPT) — and, thus, never formally committed themselves to the NPT's "three pillars": non-proliferation, disarmament and peaceful uses of nuclear energy. North Korea, once a signatory to the NPT, withdrew in January 2003. Unlike the superpower relationship, which never involved a shooting war between the United States and Russia, the new nuclear nations have a disturbing history of violent conflict. India and Pakistan have fought three wars in recent history and have barely avoided it on several other occasions. North Korea and South Korea remain locked in an often cruel and brutal decades-old cold war. It is easy to imagine a

number of ways that conflicts in Asia could escalate to the nuclear level. India and Pakistan, and the two Koreas, are trapped in their respective deep and dangerous regional cold wars.

THE ISRAELI PROBLEM: MAINTAINING A NUCLEAR MONOPOLY IN THE MIDDLE EAST

One of the few issues on which Israelis across the political spectrum agree is that Israel must maintain its regional monopoly on nuclear weapons. On at least three occasions, the Israelis have pre-emptively attacked suspected nuclear capabilities in the Middle East: on June 7, 1981, they destroyed an Iraqi nuclear reactor at Osirak; on September 6, 2007, they destroyed what they believed was a Syrian nuclear facility at al-Kibar; and currently, the Israelis are widely reported to be involved in a covert war — including the use of cyberwar viruses and the assassinations of Iranian nuclear scientists — aimed at degrading the Iranian nuclear program that many Israelis believe is aimed at developing a nuclear weapons capability. Israel has never signed the NPT and is unlikely to do so any time soon; Iran is a signatory to the NPT and maintains that its nuclear program is devoted to developing nuclear energy, as permitted under the terms of the NPT. The covert war between Israel and Iran could erupt into a major regional conflict that would tear the Middle East apart. Due to the United States' special relationship with Israel, it could be drawn into such a conflict, a circumstance that might, in turn, draw the Russians as well.

THE IRANIAN PROBLEM: AN ISOLATED, INTRANSIGENT REGIME IN A VERY TOUGH NEIGHBOURHOOD

The Islamic Republic of Iran's government has circled its wagons and, according to many, is moving as rapidly as it can toward a nuclear weapon capability. The regime is being punished for what the United States and the West regard as Iranian deception and duplicity regarding several aspects of its nuclear program. The rial, Iran's official currency, is worth less with each passing day. Tehran's friends are few and unreliable, such as the besieged Assad government in Syria and Hugo Chavez's government in Caracas. Most ominously, the Israeli government, led by Benjamin Netanyahu, has openly threatened to bomb suspected Iranian nuclear weapons facilities, whether the United States approves or not. So, the standoff continues: Iran continues to claim that it seeks to develop only peaceful applications of nuclear energy, while almost no one in the West, or anywhere else, believes this official line. An all too likely scenario in the short- to medium-term seems to be this: Iran is intransigent; the Israelis strike pre-emptively and massively; the Iranian nuclear program is set back by a couple of years; and Iran redoubles its efforts to develop nuclear weapons — which, in turn, results in either another attack by the Israelis or an Iranian nuclear test. If — and when — the latter comes to pass, the world will have entered a new dimension of risk.

THE PSEUDO-SOLUTION: WHAT-IFS?

The few specialists and activists devoted to reaching the goal of zero nuclear weapons have been unable to convince others who are not already so inclined. There are two principal reasons for this. Some argue that extremely low numbers of nuclear weapons (to say nothing of zero) raise the risk of cheating, blackmail and "breakout" — they fear that the world will awake one morning to discover that, *voila*, country X has cheated, gone nuclear and is threatening to attack an adversary. The message: keep your nuclear powder dry just to be on the safe side. Versions of this rationale are prominent in all countries possessing nuclear weapons, and are overwhelmingly popular in Israel and the new nuclear nations. The second argument for maintaining the nuclear status quo (more or less) is that the scenarios advanced by nuclear abolitionists are almost entirely hypothetical, abstract and counterintuitive, involving the alleged probability of events that have never happened, but (so the abolitionists claim) will or might happen in the future. This argument is flipped on its head by advocates of the nuclear status quo who like to point out that, in spite of whatever the proximity of historical events to nuclear war may have been, none occurred, *even then, even in deep Cold War confrontations*. Their conclusion: it isn't going to happen. These status-quo advocates also take pleasure in reminding nuclear abolitionists that the 45-year Cold War was a nuclear-free historical zone, a fact that they explain by the existence of mutual assured destruction in which the superpowers found themselves. Rational actors, they believe, stayed rationally clear of nuclear danger, and are likely to do so in the future as well.[2]

2 Political scientists Kenneth N. Waltz and Scott D. Sagan have been debating the argument for abolition in just these terms for nearly 20 years, but neither has yet convinced the other. The empirical background for Sagan's argument is in his 1993 book, T*he Limits of Safety: Organizations, Accidents and Nuclear Weapons* (Princeton: Princeton University Press). The book is filled with accounts of dozens of close calls and near misses, and it has a sophisticated argument explaining why we are right to worry about nuclear danger in light of these data. Waltz and Sagan began to engage each other directly with the publication in 1995 of their *The Spread of Nuclear Weapons: A Debate* (New York: Norton). More recently, they have applied their respective approaches to the question of whether the West should allow Iran to develop a nuclear weapons capability. For a sense of just how futile this debate can be, see their 2007 debate at Columbia University: www.youtube.com/watch?v=Xupuaqu_ruk.

Missiles in Cuba. From the short film *Was Castro Crazy?* available at: www.youtube.com/watch?v=q2Y4314xQ0Q&feature=plcp. (Art by Ken Turner)

THE PSYCHOLOGICAL PROBLEM: GLOBAL GOVERNANCE WITHOUT AN ENGINE

The existing global governance mechanisms for reducing the nuclear threat are more than adequate to reach zero nuclear weapons if invoked by the international community. These mechanisms include the NPT, the International Atomic Energy Agency and the Comprehensive Nuclear-Test-Ban Treaty. These mechanisms of global governance were conceived, in large part, as vehicles to facilitate movement toward the abolition of nuclear weapons; yet the political will to move to zero nukes does not exist.[3] There is currently no engine to drive the mechanisms of global governance. In the United States, for instance, the nuclear threat is the preoccupation of a relatively small number of highly specialized scholars and officials toiling in obscurity, far below the radar of the politicians in nuclear-capable countries without whose advocacy abolition is only a pipe dream. It is obvious that people must be afraid — very afraid — before they will be moved en masse to overcome the political and technical issues involved in getting to zero. This fear does not currently exist. The world is sleepwalking, largely oblivious to the danger. Even those committed to working toward zero tend to become, in the current international environment, bogged down in the technical details of exactly how to proceed, how long it should take, various monitoring schemes to prevent cheating, and so on. Of course, these are important issues. But in our view, their importance lies primarily as a follow up to a global commitment to abolish nuclear weapons.[4]

Buried in all the technical detail of some two dozen contributors to Perkovich and Acton's *Abolishing Nuclear Weapons: A Debate* (2009), there is what we would call an "omigod" moment in Scott D. Sagan's contribution. After reviewing the past several NPT review conferences, Sagan suggests that in order to get to — and stay at — zero, the nuclear fuel cycle of all countries, not just the nuclear nations, must be internationalized. In other words, control over all nuclear power and all nuclear weapons production must be taken out of the control of individual nations and given to some mechanism of global governance.[5] This observation is prescient, but mind-boggling in its implications, under present circumstances. It is, in fact, difficult to imagine the circumstances under which even one nation would do so, given the present apathy toward the importance of zero nuclear weapons, unless people become very afraid of blowing up the world, as was suggested by Herman Kahn. On this essentially psychological point, we believe, the Cuban missile crisis, if presented with accuracy and sustained energy has an important psychological role to play.

A PSYCHOLOGICAL SOLUTION FOR A PSYCHOLOGICAL PROBLEM: CUBA IN THE MISSILE CRISIS

Research on the October 1962 Cuban missile crisis reveals that one of the three leaders centrally involved, Fidel Castro, believed by October 26-27, 1962, that nuclear war was about to commence. Convinced that Cuba's destruction was inevitable (though, in fact, it was not), he took defiant actions that raised the odds of war far higher than was known in Washington during the crisis. Castro ordered his Cuban forces to fire on US reconnaissance planes and to prepare for all-out war, rather than acquiesce to American demands. Fidel Castro was young, impetuous and not well-informed about the nuclear capabilities of either the United States or the Soviet Union. But he was not crazy to believe what he did: that war with the United States was inevitable; that war was about to start; that any war involving a US invasion of Cuba would go nuclear almost from the outset; and that Cuba would be completely destroyed, no matter what else happened. In retrospect, the escape from a nuclear war seems miraculous. John F. Kennedy, Nikita Khrushchev — and, even Castro, who was neither consulted nor informed by the Soviets of their decision to withdraw weapons from Cuba — backed off

3 To see why the what-if approach to achieving zero nukes doesn't work, see the fine survey carried out by the Council on Foreign Relations, updated regularly on their website: www.cfr.org/proliferation/global-nuclear-nonproliferation-regime/p18984. The report authors survey the existing mechanisms of global governance, determining the pros and cons of zero nuclear weapons in a wide variety of scenarios. It takes nothing away from the value of the report to say that, in the end, whether one is "pro" or "con," reducing nuclear arsenals to global zero is almost entirely a matter of estimated, highly subjective, essentially unverifiable probabilities.

4 Many of these debates about the details of how to achieve zero seem to us like arguing how to configure the lounge chairs on the deck of the *Titanic*. See, for example, the analyses of George Perkovich and James Acton in *Abolishing Nuclear Weapons: A Debate* (2009).

5 See Sagan's "Good Faith and Nuclear Disarmament Negotiations," in Ibid.: 203–212.

just in the nick of time. Castro agreed to allow the removal of the weapons, even though he believed the United States was poised to attack as soon as the Soviet weapons were gone. In the end, Castro, the other leaders and the world, lucked out. As US nuclear policy analyst Kingston Reif has emphasized, "Beneath the seemingly stable veneer of the Cold War lies the chaos of the Cuban missile crisis."[6] This suggests a formula:

Chaos/Oct/'62 + Thousands of Nukes/Now = Fear of Armageddon

A robust, deep and sustained appreciation of this point — that nuclear war came within an eyelash of happening, it scared the daylights out of the three leaders, and it could happen again — is the prerequisite for energizing movement toward nuclear abolition. Focusing on the nearness to doomsday and de-emphasizing the escape, can provide an engine for paralyzed mechanisms of global governance, which are already, on paper, committed to zero nuclear weapons.[7]

A LITTLE GOOD NEWS: THE UNITED STATES AND RUSSIA HAVE REDUCED NUCLEAR STOCKPILES

In the more than two decades since the fall of the Soviet Union and the reassembly of its empire to its west and south along more traditional lines, some progress has been made, especially in reducing the odds that Russia and the United States will somehow stumble into an all-out nuclear war. This is important because between them, the United States and Russia hold about 95 percent of the world's known nuclear weapons. The moribund Strategic Arms Limitation Treaty process, left over from the Cold War, has yielded to the Strategic Arms Reduction Talks (START) process, thence to what is called New START, which entered into force in February 2011. The schedule agreed to in the New START of July 2009, requires both nuclear superpowers to reduce their arsenals to 1,550 strategic nuclear warheads, 700 deployed strategic delivery systems and 800 deployed and non-deployed strategic delivery systems by 2018. That is the good news: the superpower arsenals that, during the Cold War, amassed more than 65,000 nuclear weapons between them may, within an unspecified number of years, possess less than 5,000 between them.

Currently, however, approximately 19,000 nuclear weapons remain, possessed (as far as is known) by nine countries.[8] The approximate distribution is as follows:

Status of World Nuclear Forces 2012	
Russia	10,000
United States	8,000
France	300
China	240
Britain	225
Israel	80
Pakistan	90–110
India	80–110
North Korea	<10

Source: Federation of American Scientists (2011). "Status of World Nuclear Forces." Available at: www.fas.org/programs/ssp/nukes/nuclearweapons/nukestatus.html.

Note: At least 32 additional countries possess sufficient nuclear explosive materials to build weapons, many in a very brief period of time. In all, roughly 100,000 additional nuclear weapons could be built using only current fissile material nuclear stockpiles. Moreover, the totals for the United States and Russia do not include several thousand warheads that await dismantling.[9]

A LOT OF BAD NEWS: WHAT-IF? WHAT-IF? WHAT-IF? WHAT-IF? WHAT-IF? AND, UM, WHAT-IF?

It defies credibility to presume that thousands of the most powerful weapons in history can exist forever without being

6 Kingston Reif, personal communication, May 25, 2012. Kingston Reif, one of the foremost young scholars in nuclear non-proliferation, traces his nuclear abolitionist roots to an April, 2009 speech by US President Barack Obama in Prague. The speech (available at: www.whitehouse.gov/video/The-President-in-Prague) laid out Obama's vision of a nuclear-free world, inspiring many to join the struggle to make it a reality. Reif is a leader of "Generation Prague," a group of young people who support Obama's vision of a nuclear-free world, but also hold the president's feet to the fire whenever it seems that he is not persevering enthusiastically — or successfully — enough, toward zero. Kingston Reif may be unique among the members of Generation Prague in his insistence that the Cuban missile crisis plays a vital role in motivating and sustaining movement toward zero. See, in particular: "Thirteen Days and What Was Learned," in the June 2012 issue of *Bulletin of the Atomic Scientists* (available at http://thebulletin.org/web-edition/columnists/kingston-reif/13-days-and-what-was-learned). See also Reif's April 2010 speech "Some Thoughts on the Prague Generation and Nuclear Weapons," at a State Department-sponsored conference (available on his blog at: http://nukesofhazardblog.com/story/2011/4/4/201222/6404).

7 A basic text on the Cuban missile crisis is James G. Blight, Bruce J. Allyn and David A. Welch, *Cuba on the Brink: Castro, the Missile Crisis and the Soviet Collapse*, 2nd expanded edition (Lanham, MD: Rowman & Littlefield, 2002). This new edition of the book, which contains Fidel Castro's most comprehensive statement of the situation as he saw it during the crisis, has now been updated and is infused with new data and a dramatically enhanced picture of the psychological reality as viewed by Castro, Kennedy and Khrushchev. See, also, James G. Blight and janet M. Lang, *The Armageddon Letters: Kennedy/Khrushchev/Castro in the Cuban Missile Crisis* (Lanham, MD: Rowman & Littlefield, 2012).

8 These numbers are consistent with the estimates in the *Bulletin of the Atomic Scientists'* Nuclear Notebook.

9 This alarming figure is derived from a February 2012 lecture by Rutgers climatologist Alan Robock, at the annual conference of the American Geophysical Union. See: http://climate.envsci.rutgers.edu/RobockVideo.html.

used — by someone, for some reason, somewhere.[10] Yet, few individuals take the time to learn the facts, much less think deeply about the nuclear threat. The vast majority of people believe that the nuclear threat ended with the Cold War — or at least any nuclear threat that might affect Western democracies. Some even believe that nuclear weapons have already been abolished, or nearly so.

Scholars, analysts and governmental officials who follow this problem, however, have identified a number of hypothetical scenarios that, in their minds, lead to the conclusion that moving to zero nuclear weapons is a necessity. Consider the following what-if scenarios:

- **Residual Cold War Fear.** A Cold War-like event, in the wake of deteriorating US-Russian relations, could lead to catastrophe due to the speed and the degree to which the alerting systems of Washington and Moscow interact with one another. There is also evidence to suggest that Russia, like the Soviet Union during the Cold War, remains concerned about its ability to command its nuclear forces during a crisis and continues to fear the possibility of a decapitating US nuclear first strike.

- **Accidents Will Happen.** For example, in January 1997, Norway launched a weather satellite that Russian intelligence identified as an incoming missile. Russian President Boris Yeltsin ignored it. What if he hadn't?

- **Loose Nukes.** Sooner or later, a terrorist group will acquire a nuclear weapon that the Russians have "lost" and use it against Western interests. What if a terrorist group gets its hands on fissile material and improvises a nuclear explosive device? What if a suicide bomber with a nuclear warhead strapped to his or her body was determined to destroy a city?[11]

- **Rogue Regimes.** Some leaders and their governments may be undeterrable because of their pursuit of martyrdom for political or religious causes. In other words, what if a country in possession of one or more nuclear weapons is not afraid of being destroyed? What if, for example, the North Korean leadership is pushed to the brink and decides to take South Korea down with it?

- **Middle East Woes.** The Middle East remains among the world's most dangerous neighbourhoods — Arab Spring or no Arab Spring. Many see a war between Israel and Iran as almost inevitable. What if Iran's apparent pursuit of a nuclear weapon capability is met with a massive Israeli bombing raid on Iran, either with or without US approval?

- **Escalation in Hot Spots.** What if a conflict starts that seems, at the outset, contained, but unaccountably draws in one or more nuclear powers, even the superpowers. Some believe we were lucky that Washington and Moscow didn't square off at the conclusion of the war in Kosovo in June 1999 or during the August 2008 "Five-Day War" between Georgia and Russia over the jurisdiction of South Ossetia.

- **Failed States with Nukes.** Many believe Pakistan will fracture, sooner or later. What if Pakistan comes apart, stripping its nuclear arsenal of centralized control by the Pakistani military? What if Pakistan's arch-enemy, India, pre-emptively attacks the nuclear facilities? If India pre-empts Pakistan, what if its long-time adversary China attacks Indian nuclear weapons sites?[12]

While scenarios like these are scary, they will only move you to act to reduce their likelihood if you really believe that one or more might actually happen. But most people, most of the time, don't believe it, either because they have never thought about it or because they believe the scenarios are too improbable to warrant serious attention. The problem for advocates for zero nukes is obvious: after 67 years of the non-use of nuclear weapons and in the absence of the high drama of the global Cold War, those who argue for the goal of zero nuclear weapons are forced to play a role analogous to that of Chicken Little, telling everyone that the sky is falling, that it already almost fell, that it is pretty close to falling *right now*, and so on, when, in fact, the sky has not fallen and doesn't appear poised to fall anytime soon. No nuclear weapons have been used in war since August 1945; since the Second World War,

10 The phrase "it defies credibility" is borrowed from the Canberra Commission on the Elimination of Nuclear Weapons' seminal report (1995) on the nuclear threat. The text is available at: www.ccnr.org/canberra.html.

11 In our view, the "loose nukes" problem undercuts the somewhat abstract and naïve views of realists, led by Kenneth Waltz, who argue that more nukes create a safer world, because in such a world, there is little incentive in going first in a nuclear war. That may be true, or it may not. But it is clear that terrorists seeking to create nuclear mayhem, and who may be willing to sacrifice themselves in so doing, will be undeterred by the fear of a second strike — presuming that the headquarters of the responsible group can even be identified with confidence. We agree, therefore, with Scott D. Sagan, who has debated Waltz on this issue for the better part of 20 years: more weapons are more dangerous because the most likely paths to nuclear war have nothing to do with the single scenario that interests Waltz: a Cold War-like bolt out of the blue. See Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: Norton, 2002) and the filmed 2007 debate between Sagan and Waltz at Columbia University: www.youtube.com/watch?v=Xupuaqu_ruk.

12 These scenarios have been reviewed recently in two different yet complementary books: Tad Daley, *Apocalypse Never: Forging the Path to a Nuclear Weapon-Free World* (New Brunswick, NJ: Rutgers University Press, 2010) and Ron Rosenbaum, *How the End Begins: The Road to a Nuclear World War III* (New York: Simon & Schuster, 2011). Daley is an activist who has devoted his life to the abolition of nuclear weapons, whose writing style is that of a motivational speaker. Rosenbaum is something of a gonzo journalist and provocateur, whose interviews and commentary are ironical and teasing. He seems pretty jolly for a person writing about the end of the world as we know it.

N=0, so to speak. Moreover, with so many concrete foreign policy challenges facing leaders and their constituents — the debt crisis, climate change, regional conflicts, terrorism — the threat of a civilization-ending nuclear war seems almost quaint and exotic. This is especially true for many young people, who regard fear of nuclear war as a relic from their grandparents' heyday, back when teachers made school kids practise hiding under their desks where, it was alleged, they would be safer in the event of a nuclear attack. In those days, the nuclear war what-if was really scary. Now, not one citizen in 100 in any country in the world ever thinks about it.

Recent climatological modelling studies, which are also far under the radar of most people, have been a game changer for many who work on reducing the nuclear threat and have even led some former skeptics of zero nukes to about-face. These models study the effects of various kinds and levels of nuclear use in war on the earth's climate and, in fact, compel a redefinition of what we mean by the phrase "major nuclear war." Climatologists now tell us that the use of less than one percent of the existing nuclear arsenals — say, 100–200 nuclear weapons — could destroy human civilization, albeit in stages. Nuclear winter, caused by enormous quantities of debris blown into the upper reaches of the earth's atmosphere, would induce agricultural atrophy on an unprecedented scale, leading to mass starvation and the gradual descent into the kind of barbaric societies that have, heretofore, occurred only in apocalyptic fiction, such as Cormac McCarthy's 2006 masterpiece, *The Road*. True, this is not the kind of scenario satirized in Stanley Kubrick's 1964 film, *Dr. Strangelove*, which ends just as the planet — and everyone on it — is about to be blown to smithereens. Instead of the Cold War "quick death," the dominant what-ifs of the post-Cold War world emphasize the "slow death" of civilizations, although many people near the explosions would be incinerated instantly or die of radiation sickness shortly thereafter. In such a post-apocalyptic world, according to Herman Kahn, the living would envy the dead.[13] Apocalyptic fiction will have morphed into apocalyptic reality.

Critics of nuclear winter modelling are correct to recommend caution about specific point predictions based on such exercises, as the number of variables is mind-boggling, many basic assumptions cannot be tested and incommensurable political agendas have been a feature of the nuclear winter commentary for a generation. Nevertheless, it seems clear enough that there is a small but non-zero probability that a relatively small nuclear war would trigger nuclear winter. Given the magnitude of the potential disaster, therefore, the risk is not, in our view, worth taking.

"WE LUCKED OUT!": A PSYCHOLOGICAL ENGINE FOR THE ZERO NARRATIVE

DELETE "WHAT-IF," ENTER "WHAT ACTUALLY HAPPENED"

In October 1962, human civilization came very close to being destroyed. There is no longer any room for reasonable doubt on this subject, once so intensely debated among scholars and journalists. Armageddon was a hair's breadth away in October 1962. All the pieces were in place: weapons and warheads were ready to fire all over the world; secretly deployed tactical nuclear weapons were prepared to incinerate invading US troops on the north coast of Cuba; fear of holocaust gripped the White House and Kremlin; and in Cuba, Soviet and Cuban troops prepared for what they believed was their last battle, confident that Armageddon would begin on the island and that, in retaliation, Moscow would destroy the United States — "we should wipe them off the face of the earth," as Fidel Castro said on October 26, 1962.[14]

Robert S. McNamara and James G. Blight working at the authors' living room table in 2000, Milton, MA, United States. (Photo by janet M. Lang)

Armageddon would almost certainly have occurred if leaders in Washington and Moscow hadn't stopped in their tracks, turned 180 degrees and raced away from the brink in a panic at the foreshadowed doomsday. Armageddon

13 Alan Robock of Rutgers is the heir to a tradition begun by Carl Sagan and his associates in the early 1980s: a scientist specializing in modelling the effects of various kinds of imagined nuclear wars on the global climate and what those effects imply for the quality of human life in a post-nuclear war environment. See, for example, Alan Robock, "Nuclear Winter is a Real and Present Danger." *Nature*, vol. 473 (2011): 275-276; Alan Robock and Owen Brian Toon, "Local Nuclear War, Global Suffering." *Scientific American*, vol. 302 (2010): 74–81; and Alan Robock, "New START, Eyjafjallajökull and Nuclear Winter." *Eos* (2010): 444-445.

14 This quote is Soviet Ambassador Aleksander Alekseev's summary to Khrushchev of Castro's message in his October 26, 1962 letter to Khrushchev. (See footnote 16.) Much of the data supporting the claim that the world nearly ended in October 1962 derives from our research and that of our team over the last quarter century. For a point of entry into the vast literature on the Cuban missile crisis, see James G. Blight and janet Lang, "Appendix A: The Armageddon Time Machine/Text: Acquiring the Letters" and "Appendix B: The Armageddon Time Machine/Context: Bringing the Letters Back to Life" in *The Armageddon Letters* (Lanham, MD: Rowman & Littlefield, 2012).

was also avoided because Fidel Castro agreed, with profound reluctance, to allow the Soviets to remove the strategic nuclear weapons from Cuba — as Kennedy and Khrushchev had agreed to independently, without consulting or even informing Castro. These were weapons that Castro believed constituted the Cuban Revolution's last, best hope for survival in the face of unrelenting American hostility.

Luck was also essential to the great escape of October 1962. In *The Fog of War* (2003), Errol Morris' Academy Award-winning documentary film, Robert S. McNamara, who served as secretary of defense under John F. Kennedy, declares that:

> [A]t the end we lucked out! It was luck that prevented nuclear war. We came that close to nuclear war at the end. [Gestures by bringing thumb and forefinger together until they almost touch.] Rational individuals: Kennedy was rational; Khrushchev was rational; Castro was rational. Rational individuals came that close to the total destruction of their societies. And that danger exists today. The major lesson of the Cuban missile crisis is this: the indefinite combination of human fallibility and nuclear weapons will destroy nations.[15]

Everything we have learned over the past quarter century of research on the crisis supports McNamara's statement. Knowing what we now know about how the crisis nearly exploded into nuclear war, our escape from Armageddon in October 1962 seems almost miraculously lucky, but the escape wasn't entirely due to luck. Kennedy, Khrushchev and Castro exhibited just enough cautious statesmanship, just in time, to pull the rabbit out of the hat. But we agree with McNamara: without a lot of good luck, the escape is virtually impossible to imagine.

It would be foolish to expect to be this lucky again. The odds are that next time, the nuclear war like the one that seemed imminent in October 1962 will likely materialize — in whatever circumstances and involving whichever parties, when they come as close to the nuclear brink as the United States, Cuba and the Soviet Union did at that time. The next time the world finds itself this deep in a nuclear crisis — if there is a next time — it will likely be the last. If Armageddon occurs, millions will likely be killed, maybe tens of millions. It may even, in the most extreme circumstances destroy entire nations — possibly all nations.

To remove all doubt as to exactly what Fidel Castro was asking for, Ambassador Alekseev sent a separate note to Khrushchev confirming that, as soon as the expected US invasion begins, Khrushchev should "wipe them off the face of the earth."[16] When Khrushchev received the letter, in the midst of a tense meeting of the Soviet leadership, he shouted, "this is insane; Fidel wants to drag us into the grave with him!" We now know that Fidel was far from insane; rather, he assumed — not without good reason — that Cuba was doomed and the war was inevitable. He wanted Khrushchev to destroy the United States, thereby transforming Cuba from a victim of US imperialism to a martyr for its destruction.

The US attack and invasion of Cuba was poised to commence. If the Americans had invaded, we now know what Khrushchev and Castro knew, but Kennedy did not: the US expeditionary force, bracing to storm Cuban beaches and march toward Havana, would have been incinerated in nuclear fire from Soviet tactical nuclear weapons. We also know what Kennedy knew, and what Khrushchev and Castro guessed: that a nuclear attack on US forces would have been met by a devastating US nuclear response that would have destroyed Cuba. And that would have been only the beginning.

What might have been. (Art by Andrew Whyte)

15 McNamara's quotation may be found in our book based on Morris' film. See James G. Blight and janet M. Lang, *The Fog of War: Lessons from the Life of Robert S. McNamara* (Lanham, MD: Rowman & Littlefield, 2012), p. 59.

16 Both Castro's letter and Alekseev's note to Khrushchev appear in James G. Blight, Bruce J. Allyn and David A. Welch, *Cuba on the Brink: Castro, the Missile Crisis and the Soviet Collapse*, 1st edition (Lanham, MD: Rowman & Littlefield, 1993). The letters and their context are drawn from Act II of *The Armageddon Letters*, entitled "Spiral."

AN ARMAGEDDON LETTER: FIDEL CASTRO TO NIKITA KHRUSHCHEV, SENT AT 7:00 A.M. EDT, OCTOBER 27, 1962[17]

This section is a preview — a taste, a hint — of what it is like to vicariously enter the forward-moving, blood-curdling, confusing, waking nightmare that was the Cuban missile crisis as it peaked near the end of October 1962. In our new book, *The Armageddon Letters*, and the transmedia project it anchors, readers are taken behind the scenes during the Cuban missile crisis. In this genre-busting work of history, John F. Kennedy, Nikita Khrushchev and Fidel Castro exchange letters during the fog of the most dangerous crisis in recorded history. The book and its associated transmedia program of films, blogs, podcasts and graphic art, constitute a virtual time machine with which to experience some portion of the nuclear dread these leaders faced in October 1962.

Here is the historical context. Castro feels that his preparations are complete. Cuba will resist the coming US air attack and invasion heroically, even though he and most Cubans believe the Americans will use nuclear weapons to completely obliterate Cuba. He has now finished a letter to his patron, Nikita Khrushchev; a letter that Castro believes is his last request as a leader of a nation about to be obliterated in nuclear fire. It is a deathbed message, urging Khrushchev to redeem Cuba's annihilation by destroying the United States of America as soon as the invasion of Cuba begins, and in so doing, transform Cubans from victims into martyrs. Fidel is calm. He is pleased with the suicide note he has just composed for the six-and-a-half million citizens of the Socialist Republic of Cuba, and the 43,000 Russian citizens on the island who will be incinerated alongside them.

The following is the text of Castro's Armageddon letter to Khrushchev, in the full, official Cuban translation:

> Dear Comrade Khrushchev:
>
> From an analysis of the situation and the reports in our possession, I consider that the aggression is almost imminent within the next 24 to 72 hours.
>
> There are two possible variants: the first and likeliest one is an attack against certain targets with the limited objective of destroying them; the second, less probable although possible, is invasion. I understand that this variant would call for a large number of forces and it is, in addition, the most repulsive form of aggression, which might inhibit them.
>
> You can rest assured that we will firmly and resolutely resist attack, whatever it may be.
>
> The morale of the Cuban people is extremely high and the aggressor will be confronted heroically.
>
> At this time I want to convey to you briefly my personal opinion.
>
> If the second variant is implemented and the imperialists invade Cuba with the goal of occupying it, the danger that that aggressive policy poses for humanity is so great that following that event the Soviet Union must never allow the circumstances in which the imperialists could launch the first nuclear strike against it.
>
> I tell you this because I believe the imperialists' aggressiveness is extremely dangerous and if they actually carry out the brutal act of invading Cuba in violation of international law and morality, that would be the moment to eliminate such danger forever through an act of clear legitimate defense, however harsh and terrible the solution would be, for there is no other.
>
> It has influenced my opinion to see how this aggressive policy is developing, how the imperialists, disregarding world public opinion and ignoring principles of the law, are blockading the seas, violating our airspace and preparing an invasion, while at the same time frustrating every possibility for talks, even though they are aware of the seriousness of the problem.
>
> You have been and continue to be a tireless defender of peace and I realize how bitter these hours must be, when the outcome of your superhuman efforts is so seriously threatened. However, up to the last moment we will maintain the hope that peace will be safeguarded and we are willing to contribute to this as much as we can. But at the same time we are ready to calmly confront a situation, which we view as quite real and quite close.
>
> Once more I convey to you the infinite gratitude and recognition of our people to the Soviet people who have been so generous and fraternal with us, as well as our profound gratitude and admiration for you, and wish you success in the huge task and serious responsibilities ahead of you.
>
> Fraternally,
>
> Fidel Castro

17 The letter is dated October 26 but was sent on October 27. Castro went to the Soviet Embassy at 2:00 a.m. on October 27 and started the draft, using October 26 as the date. He wrote 10 drafts; the letter was finally sent to Moscow at 7:00 a.m. on the 27th, still dated October 26. See Blight and Lang, *The Armageddon Letters* (2012) for details.

CUBA IN THE MISSILE CRISIS: THREE TAKEAWAYS, THREE RECOMMENDATIONS

On the last weekend of October 1962, the world teetered on the edge of irreparable destruction. Leaders felt they were on the brink of catastrophe. Now that we know more about what actually happened in Cuba by October 1962, the escape seems even more miraculous and the drive to rid the world of nuclear weapons is even greater. Having immersed ourselves in the crisis for more than a quarter century, we arrive at the following takeaways and recommendations:

TAKEAWAYS

- **Armageddon is possible**. A catastrophic nuclear war nearly happened in October 1962. This is not science fiction. Rather, it is now a matter of historical record. On the final weekend of October 1962, Kennedy, Khrushchev and Castro feared the world would be blown to smithereens before they could act to prevent it. And it almost happened.

- **Armageddon is possible, *even if no one wants it.*** A nuclear catastrophe will likely be inadvertent. It will involve a series of conscious decisions that were unthinkable prior to a crisis, like the Cuban missile crisis. As the crisis deepens, time will seem short, the stakes sky-high and the pressure to attack first may become impossible to resist.

- **Armageddon is virtually inevitable.** The indefinite combination of nuclear weapons and human fallibility will eventually result in the destruction of entire nations — possibly all nations. Arguments to the contrary defy credibility. Moreover, the use of even a tiny fraction of the world's nuclear weapons may bring on nuclear winter and the extinction of human civilization.

RECOMMENDATIONS

- **Armageddon must be made impossible.** Armageddon must be made not merely improbable — based on subjective judgments of highly fallible human beings — but impossible, based on the abolition of nuclear weapons as swiftly and safely as possible. Were this to happen, the planet would become a nuclear-free zone, just as in February 1967, the Treaty of Tlateloco declared all of Latin America to be a nuclear-free zone. Global governance mechanisms to achieve zero nuclear weapons exist in abundance, but the political will to make adequate use of them is absent. The hypothetical what-ifs driving the argument are regarded as either implausible or monumentally improbable.

- **Armageddon must be remembered.** To rev up the engine of global public opinion for zero nukes, the United Nations, along with its constituent and associated agencies devoted to the abolition of nuclear weapons, should establish October 27, the anniversary of the Cuban missile crisis, as a global day of meditation. The United Nations should invite artists — filmmakers, poets, painters, sculptors, composers, musicians, playwrights and others — to create works they believe capture what happened, and what did not happen (but nearly did), on the last weekend of October 1962. Analogous sculpted outdoor pieces should be placed conspicuously in Washington, Moscow and Havana. Above all, artists must continue to search for ways to portray the downward spiral of the Cuban missile crisis and the miraculous escape, in ways that move people to understand that the experience of October 1962 proves that the right number of nuclear weapons is *zero*.

- **The risk of Armageddon must be nipped in the bud.** Not only did the United States fail to consider the security needs of Cuba, it also gave Cuba every indication that an attack was imminent. Cuba, with no way to avert the expected invasion, went on a war footing with its military and civilians prepared for Armageddon. This could happen again, in Iran, in North Korea, in Pakistan or in Israel. While it is hard for large countries to focus on the security needs of adversaries or allies who are smaller, weaker or poorer, they must do so, especially when weapons of mass destruction are involved. Otherwise, they risk igniting a crisis in slow motion, such as the Cuban missile crisis that began with the April 1961 Bay of Pigs invasion and culminated with the United States, Russia and Cuba on the brink of catastrophe in October 1962.

REPEAT, UNTIL YOU REACH ZERO: CHAOS/OCT/'62 + THOUSANDS OF NUKES/NOW = FEAR OF ARMAGEDDON

On October 22, 1962, President John F. Kennedy made the scariest speech ever given by an American president. He announced the presence of Soviet nuclear missiles in Cuba and his intention to remove them by force if the Soviets refused to remove them, and warned that any attack by the Russians on any country in the Western Hemisphere would be met "with a full retaliatory response" (Kennedy, 1962). In other words, given the size and inflexibility of the nuclear arsenals at the time, Kennedy was, in effect, threatening to blow up the world. We now know that privately, Kennedy was already committed to a diplomatic solution to the crisis and resisted enormous pressure from the hawks in the military, the Congress and even among his own civilian advisers. But in his speech announcing the crisis, Kennedy was very tough and very scary.

On September 22, 1962, exactly one month before Kennedy's speech, Bob Dylan first performed "A Hard Rain's a-Gonna Fall" at Carnegie Hall. The song is thought by many to be Dylan's epitaph for the human race in the wake of an imagined nuclear war.[18] When Dylan wrote "where black is the color, where none is the number," he got it right. So did Kennedy and Khrushchev in the wake of the Cuban missile crisis. Great fear led to great learning in the immediate aftermath of the crisis. Tragically, this dream of a world without nuclear weapons was shattered by Kennedy's assassination in November 1963 and by Khrushchev's removal in a coup in October 1964. Even Fidel Castro, once the firebrand who made a contingent request to Moscow to destroy the United States in a nuclear attack has become, in his retirement, an advocate of zero nuclear weapons.[19] Zero remains exactly the right number of nuclear weapons the world should possess. What we now know about the Cuban missile crisis proves it.

US President John F. Kennedy delivers a radio and television address to the nation regarding the Soviet Union's military presence in Cuba. Oval Office, White House, Washington, DC. (Robert Knudsen. White House Photographs. John F. Kennedy Presidential Library and Museum, Boston.)

18 There are many versions and covers of Dylan's song. The version that, to us, best conveys the surreal weirdness and terror is a 1973 performance by Bryan Ferry, the former front man for British rock band Roxy Music. See: www.youtube.com/watch?v=7zwBHd4kll0.

19 Fidel Castro's current views on nuclear weapons are discussed in Blight and Lang, "Postscript: Hope" in *The Armageddon Letters* (Lanham, MD: Rowman & Littlefield, 2012). On October 15, 2010, Fidel Castro posted a short comment on YouTube that is remarkable in many ways, not least of which is the connection he sees between the Cuban missile crisis and the still-escalating crisis over Iran's nuclear program. See www.youtube.com/watch?v=1f_UPdbOIH8.

WORKS CITED

Dylan, Bob (1962). "A Hard Rain's a-Gonna Fall." Performed at Carnegie Hall, September 22.

Kahn, Herman (1962). *Thinking about the Unthinkable.* New York: Simon & Schuster.

Kennedy, John F. (1962). "Radio and Television Report to the American People on the Soviet Arms Buildup in Cuba." Available at: http://microsites.jfklibrary.org/cmc/oct22/doc5.html.

Matthews, Jessica T. (2009). "Preface." In *Abolishing Nuclear Weapons: A Debate*, edited by George Perkovich and James Acton. Washington, DC: Carnegie Endowment for International Peace. Available at: http://carnegieendowment.org/files/abolishing_nuclear_weapons_debate.pdf.

Morris, Errol (dir). (2003). *The Fog of War: Eleven Lessons from the Life of Robert S. McNamara* [Documentary]. Sony Pictures Home Entertainment.

Perkovich, George and James Acton (eds.) (2009). *Abolishing Nuclear Weapons: A Debate*. Washington, DC: Carnegie Endowment for International Peace. Available at: http://carnegieendowment.org/files/abolishing_nuclear_weapons_debate.pdf.

Schell, Jonathan (1982). *The Fate of the Earth.* New York: Knopf.

ABOUT CIGI

The Centre for International Governance Innovation is an independent, non-partisan think tank on international governance. Led by experienced practitioners and distinguished academics, CIGI supports research, forms networks, advances policy debate and generates ideas for multilateral governance improvements. Conducting an active agenda of research, events and publications, CIGI's interdisciplinary work includes collaboration with policy, business and academic communities around the world.

CIGI's research programs focus on four themes: the global economy; global security; the environment and energy; and global development.

CIGI was founded in 2001 by Jim Balsillie, then co-CEO of Research In Motion, and collaborates with and gratefully acknowledges support from a number of strategic partners, in particular the Government of Canada and the Government of Ontario.

Le CIGI a été fondé en 2001 par Jim Balsillie, qui était alors co-chef de la direction de Research In Motion. Il collabore avec de nombreux partenaires stratégiques et exprime sa reconnaissance du soutien reçu de ceux-ci, notamment de l'appui reçu du gouvernement du Canada et de celui du gouvernement de l'Ontario.

For more information, please visit www.cigionline.org.

CIGI MASTHEAD

Managing Editor, Publications	Carol Bonnett
Publications Editor	Jennifer Goyder
Publications Editor	Sonya Zikic
Assistant Publications Editor	Vivian Moser
Media Designer	Steve Cross

EXECUTIVE

President	Rohinton Medhora
Vice President of Programs	David Dewitt
Vice President of Public Affairs	Fred Kuntz

COMMUNICATIONS

Communications Specialist	Kevin Dias	kdias@cigionline.org (1 519 885 2444 x 7238)
Public Affairs Coordinator	Kelly Lorimer	klorimer@cigionline.org (1 519 885 2444 x 7265)

RECENT CIGI PUBLICATIONS

ZERO: THE SURPRISING AND UNAMBIGUOUS POLICY RELEVANCE OF THE CUBAN MISSILE CRISIS

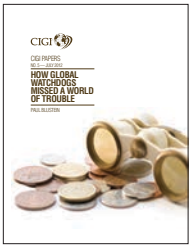
James G. Blight and janet M. Lang

Drawing on a quarter century of research on the Cuban missile crisis, this policy brief offers takeaways and recommendations for moving towards zero nuclear weapons.

FROM BRETTON WOODS TO THE EURO: HOW POLICY-MAKER OVERREACH FOSTERS ECONOMIC CRISES

Pierre Siklos

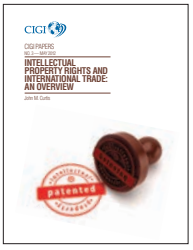
This paper considers the relevance of the Bretton Woods system for the prospects of reform of the international monetary system and in the context of the ongoing euro area financial crisis, exploring the challenges that must be met in attempting to reform the current international monetary system and euro area policies.



HOW GLOBAL WATCHDOGS MISSED A WORLD OF TROUBLE

Paul Blustein

Based on interviews with scores of policy makers who worked on the Financial Stability Forum (FSF) and thousands of pages of previously undisclosed documents, this paper examines the FSF and brings to light the failure of regulators to keep pace with the globalization of the financial system.



INTELLECTUAL PROPERTY RIGHTS AND INTERNATIONAL TRADE: AN OVERVIEW

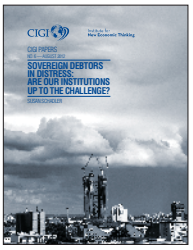
John M. Curtis

This paper examines extraordinary changes in intellectual property law and policy over the last 20 years, many as the result of their intersection with international trade and numerous international trade agreements brought into force during this period.

RESPONDING TO DISASTER: NEGLECTED DIMENSIONS OF PREPAREDNESS AND THEIR CONSEQUENCES

Andrew S. Thompson and David A. Welch

Through a comparison of responses to the recent disasters in Haiti and Japan, this policy brief identifies neglected dimensions of disaster response preparedness and offers suggestions for improvement.



SOVEREIGN DEBTORS IN DISTRESS: ARE OUR INSTITUTIONS UP TO THE CHALLENGE?

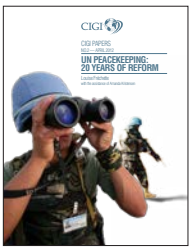
Susan Schadler

A CIGI and INET conference brought together global experts on sovereign debt crises. This paper expands on the ideas put forward during the discussion, highlighting relevant recent history and research, and proposes an action plan.

A FLOP AND A DEBACLE: INSIDE THE IMF'S GLOBAL REBALANCING ACTS

Paul Blustein

The need for economic cooperation among major powers is greater than ever, and a well-coordinated plan aimed at shrinking imbalances is seen as highly desirable. This paper is a detailed account of the initiatives, led by the IMF, to address imbalances prior to the 2008 global financial crisis.



UN PEACEKEEPING: 20 YEARS OF REFORM

Louise Fréchette
with the assistance of Amanda Kristensen

The end of the Cold War opened a new chapter in UN peacekeeping. This paper reviews key reforms implemented by the UN, concluding that real progress has been achieved. Serious weaknesses remain, however, and the UN must make every effort to continue to improve its performance.

All CIGI publications are available free online at www.cigionline.org.

57 Erb Street West
Waterloo, Ontario N2L 6C2, Canada
tel +1 519 885 2444 fax +1 519 885 5450
www.cigionline.org